

## CLAIMS

1. An arc welding robot, comprising:

a manipulator including a welding torch mounted in the vicinity of the leading end  
5 thereof;

a control unit for operating the manipulator in a given operation pattern in  
accordance with a previously taught operation program, the control unit including therein

10 a welding part for welding a member to be welded under a given welding  
condition in accordance with the operation pattern, and

recording means for recording waveform data relating to at least one of a  
welding current instruction value, a welding current output value, a welding  
voltage instruction value, a welding voltage output value, a welding speed, a wire  
feed speed, the number of times of short circuits and a wire feed motor current  
during a given period; and,

15 display means for graphically displaying the waveform data recorded in  
the recording means.

2. An arc welding robot as set forth in Claim 1, wherein the recording  
means is capable of stopping its recording automatically using at least one of an input  
20 trigger, an error stop, an arc on and an arc off as its stop trigger.

3. An arc welding robot as set forth in Claim 1 or 2, further including  
transfer means for transferring the waveform data recorded in the recording means to an  
external memory.

25 4. An arc welding robot as set forth in any one of Claims 1 to 3, wherein the  
display means includes a display control part for, when displaying the waveform data on a  
graph, enlarging and reducing the waveform data in the horizontal axis of the graph, for  
changing the scale of the vertical axis of the graph, and for displaying an operation  
30 program name, a teach point name and a sampling cycle.

5. An arc welding robot as set forth in any one of Claims 1 to 4, wherein the

display means includes a display control part for optionally adding or deleting the items of the waveform data to be displayed.

6. An arc welding robot as set forth in any one of Claims 1 to 5, wherein the  
5 display means can be used together with display means provided in a teach pendant to be connected to the control unit in order to create an operation program.

7. An arc welding robot as set forth in Claim 3, wherein a portable memory means is used as the external memory and the external memory can be mounted onto and  
10 removed from a teach pendant to be connected to the control unit in order to create an operation program.

8. An arc welding robot as set forth in Claim 3, wherein, in a teach pendant to be connected to the control unit in order to create an operation program, there is  
15 provided communication means capable of communicating with the external memory.